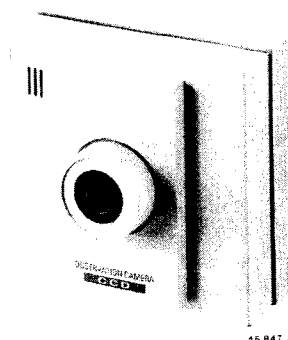


Service  
Service  
Service



# Service Manual

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## INTRODUCTION

This CCD Observation Camera is a black and white videocamera with a built-in electret microphone, a fixed focus lens and an RF output in TV band I (channel 3 or 4).

It is designed to work in a system with maximum 6 cameras together with a special B/W monitor.

The operating power for the camera is supplied via the coaxial cable.


The camera is suitable for limited outdoor use.

It is backwards compatible with both vidicon camera VK4902 and CCD camera CCD806/812.

## TECHNICAL DATA

Supply voltage	: 9.8 - 16 Volts DC
Supply current operation	: 100 mA at 12 V. DC
stand-by	: < 10 mA at 4 V. DC
Warming up time	: < 0.8 sec.
Ambient temperature	: -20°C to +55°C.
Relative humidity	: 20% - 90%
Pick-up element	: 1/3" Interline CCD VCM8120/00T/01T: LZ2324 VC81205R : LZ2314
Number of pixels	: LZ2324 : 512(H) x 582(V) LZ2314 : 512(H) x 492(V)
Horizontal resolution	: > 340 TV lines in the centre
Illumination range	: 1 to 25000 Lux.
Signal to noise ratio	: > 48 dB (illum.level > 100 lux).
Modulated RF output	: Channel 3 or 4 (selectable)
Modulator system	: VCM8120/00T CCIR-B VCM8120/01T CCIR-I VC81205R EIA
Microphone	: built-in electret
Lens	: fixed 3.65 mm F2.0
Focusability	: fixed 1m-infinity
Tripod fixation	: 1/4" BSW.
Dimensions	: 70(W) x 70(H) x 54(D)

## WARNINGS

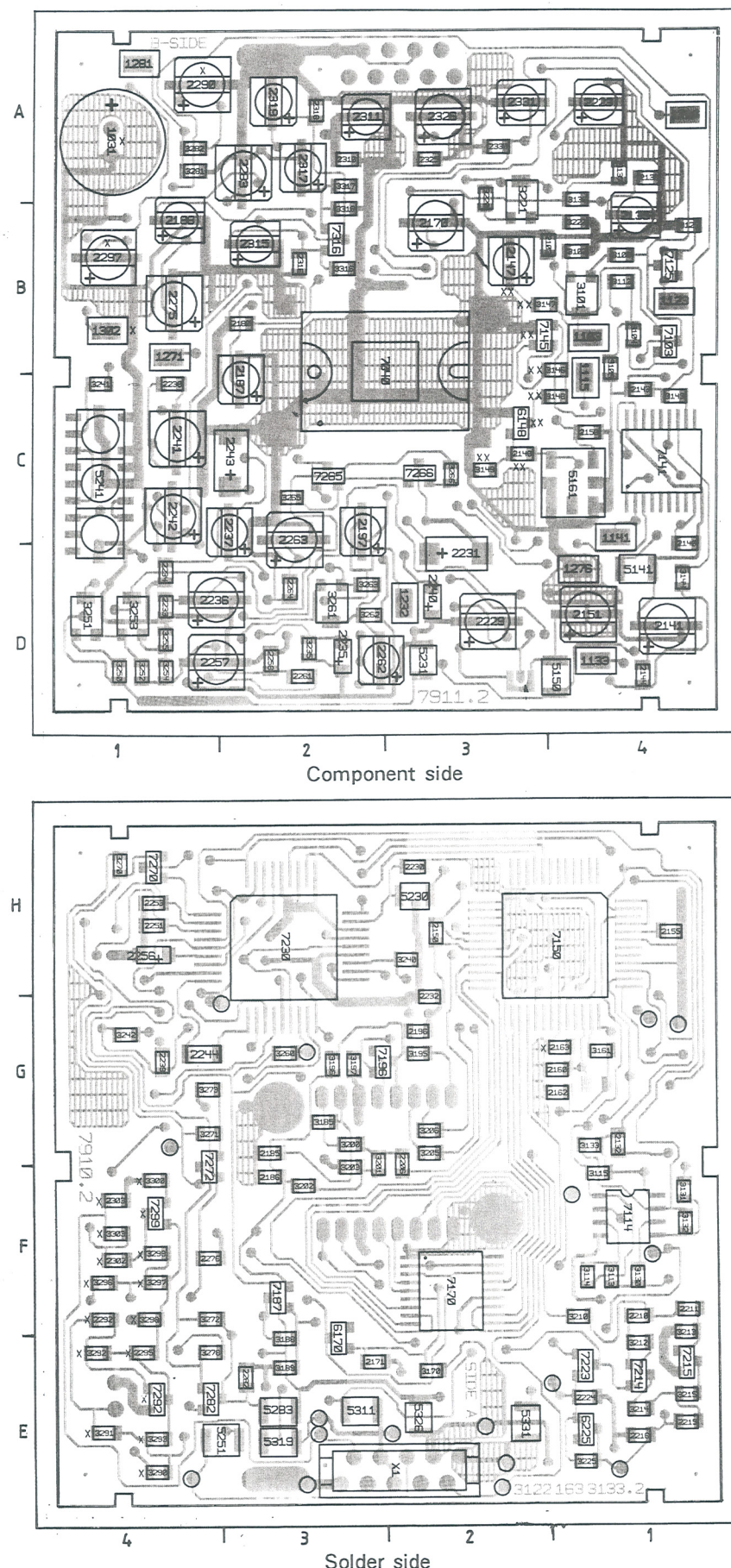
- 1. NEVER measure directly at the output of the CCD image sensor. It will destroy the sensor immediately. Always measure behind buffer 7196.**
- Safety regulations require that the set is resored to its original condition and that components identical to the original types be used.
- 

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can destroy them or reduce their lifetime drastically. When repairing, make sure that you are connected to the same potential as the mass of the set. Also keep tools at that potential.
- Always switch the set off before replacing any of the components or separating the PCboards.

## REMARKS

- The values of resistors and capacitors are given without decimal point. e.g.3k9. Please read 3.9k.

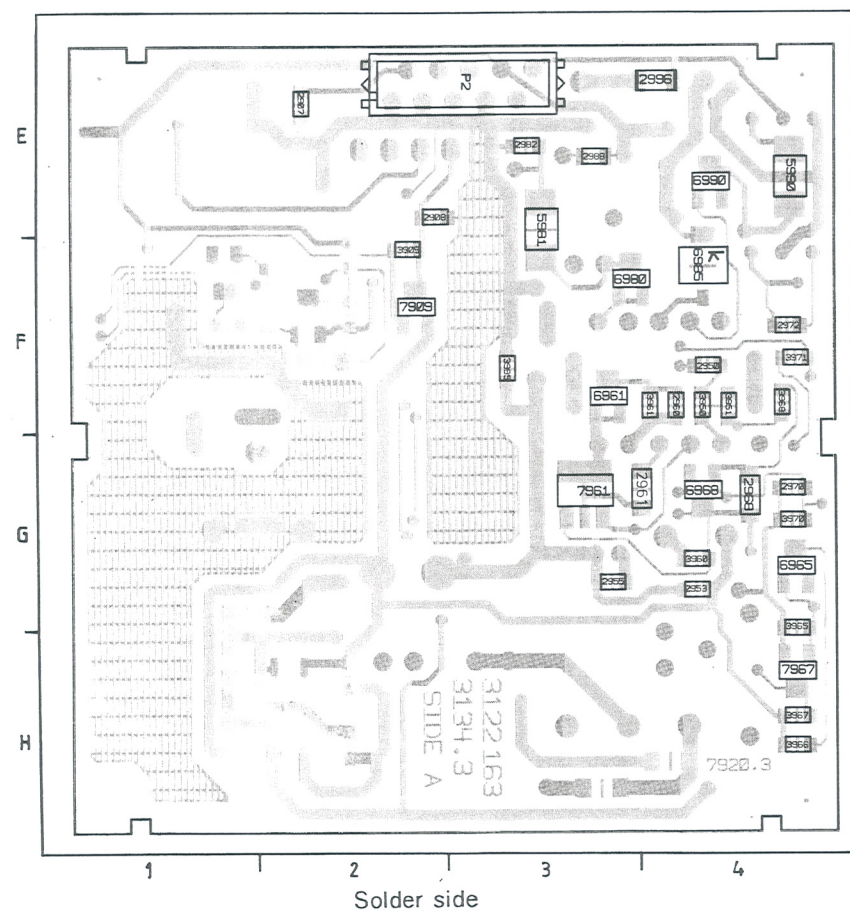
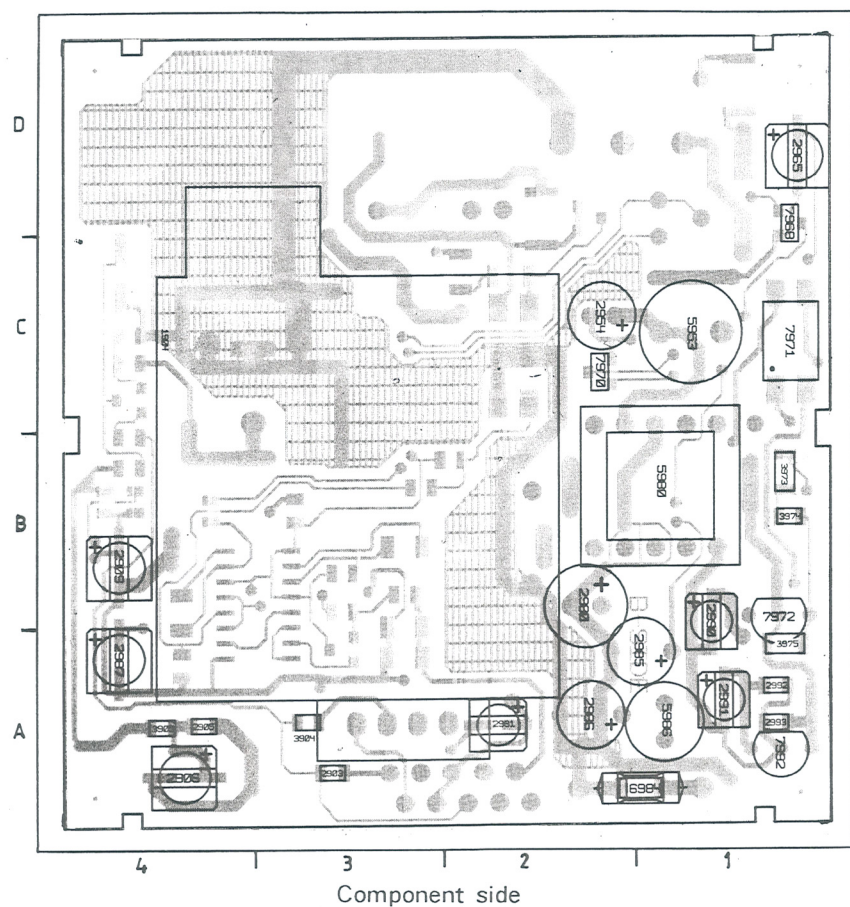
WIRING DIAGRAM PROCESSING PANEL



NOTE: This lay-out is applicable for both VCM81 & VCM61.  
Thus, some components mentioned **may not** be present on the panels

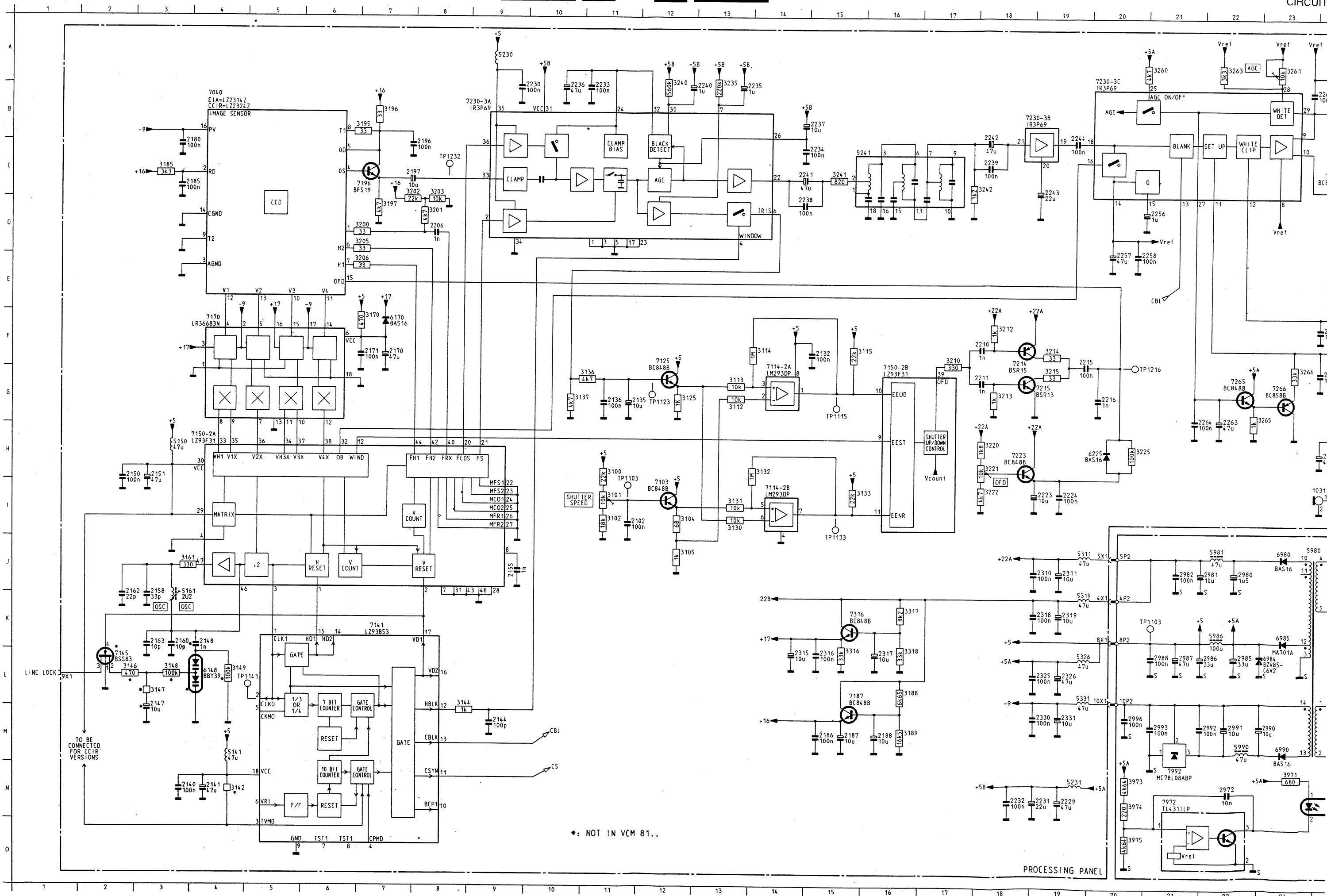
1031	A1	3136	B4
1103	B4	3137	A4
1115	C4	3143	C4
1123	B4	3144	D4
1133	D4	3145	B3
1141	C4	3146	C4
1216	A4	3147	B3
1232	D3	3149	C3
1271	B1	3161	G1
1276	D4	3170	E2
1281	A1	3185	G3
1302	B1	3188	E3
2102	B3	3189	E3
2132	G1	3195	G2
2135	B4	3196	G3
2136	A4	3197	G3
2140	C4	3200	G3
2141	D4	3201	G3
2143	C4	3202	F3
2144	D4	3203	F3
2147	B3	3205	G2
2148	C3	3206	G2
2150	H2	3210	F1
2151	D4	3212	E1
2155	H1	3213	F1
2156	C4	3214	E1
2160	G2	3215	E1
2162	G2	3220	A3
2163	G2	3221	A3
2170	A3	3222	B4
2171	E3	3225	E1
2180	B2	3235	D2
2185	G3	3240	H2
2186	F3	3241	C1
2187	B2	3250	D1
2188	A1	3251	D1
2196	G2	3252	D1
2197	C2	3253	D1
2206	F2	3254	D1
2210	F1	3255	D1
2211	F1	3260	G3
2215	E1	3261	D2
2216	E1	3262	D2
2223	A4	3263	D2
2224	E1	3265	C2
2229	D3	3266	C3
2230	H2	3270	H4
2231	D3	3271	G4
2232	G2	3272	F4
2233	D1	3273	G4
2234	D1	3276	E4
2235	D2	3281	A1
2236	D1	3282	A1
2237	C2	3290	E4
2238	C1	3291	E4
2239	G4	3292	E4
2240	D3	3293	E4
2241	C1	3296	F4
2242	C1	3297	F4
2243	C1	3298	F4
2244	G4	3299	F4
2251	H4	3300	F4
2253	H4	3303	F4
2256	H4	3316	B2
2257	D1	3317	A2
2258	D2	3318	B2
2261	D2	5141	D4
2262	D2	5150	D4
2263	C2	5161	C4
2264	D2	5230	H2
2275	B1	5231	D3
2276	F4	5241	C1
2282	E3	5251	E1
2283	A2	5283	E3
2290	A1	5311	E3
2292	F4	5319	E3
2295	E4	5326	E2
2297	B1	5331	E2
2302	F4	6148	C3
2303	F4	6170	E3
2310	A2	6225	E1
2311	A2	7040	C2
2315	B2	7103	B4
2316	B2	7114	F1
2317	A2	7125	B4
2318	A2	7141	C4
2319	A2	7145	B4
2325	A3	7150	H1
2326	A3	7170	F2
2330	A3	7187	F3
2331	A3	7196	G2
3100	B4	7214	E1
3101	B4	7215	E1
3102	B4	7223	E1
3104	B4	7230	H3
3105	B4	7265	C2
3112	B4	7266	C3
3113	F1	7270	H4
3114	F1	7272	F4
3115	F1	7282	E4
3123	F1	7292	E4
3124	F1	7299	F4
3125	B4	7316	B2
3130	F1		
3131	F1		
3132	F1		
3133	G1		

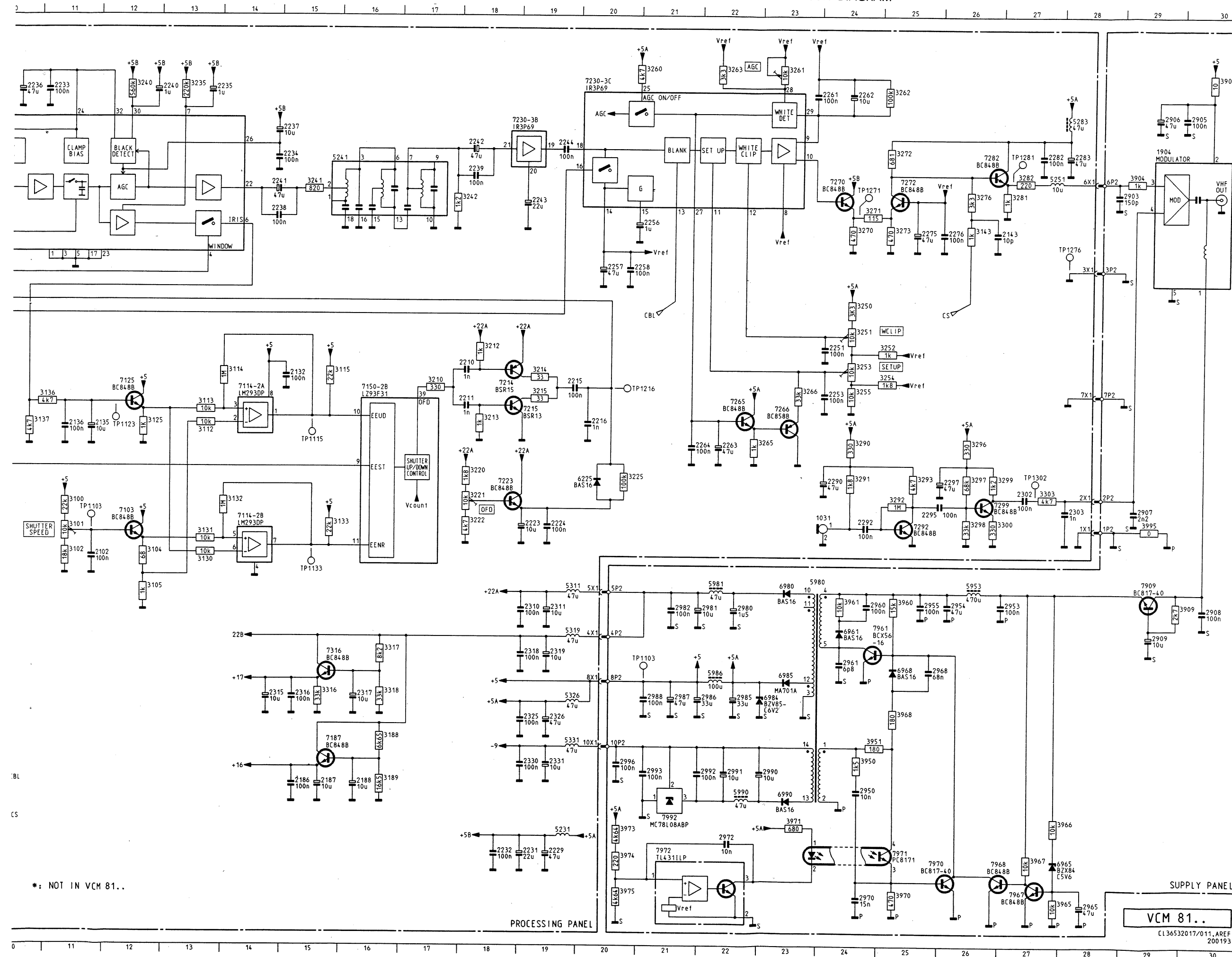




1904	C2
2903	A3
2905	A4
2906	A4
2907	E2
2908	E2
2909	B4
2950	F4
2953	G4
2954	C2
2955	G3
2960	F4
2961	G3
2965	D1
2968	G4
2970	G4
2972	F4
2980	A2
2981	A2
2982	E3
2985	A1
2986	A2
2987	A4
2988	E3
2990	A1
2991	A1
2992	A1
2993	A1
2996	E4
3004	A3
3005	A4
3050	F4
3051	F4
3060	G4
3061	F3
3065	G4
3066	H4
3067	H4
3068	F4
3070	G4
3071	F4
3073	B1
3074	B1
3075	A1
3095	F3
5953	C1
5980	C1
5981	E3
5986	A1
5990	E4
6961	F3
6965	G4
6968	G4
6980	F3
6985	F4
6990	E4
7909	F2
7961	G3
7967	G4
7968	C1
7970	C1
7971	C1
7972	B1
7992	A1

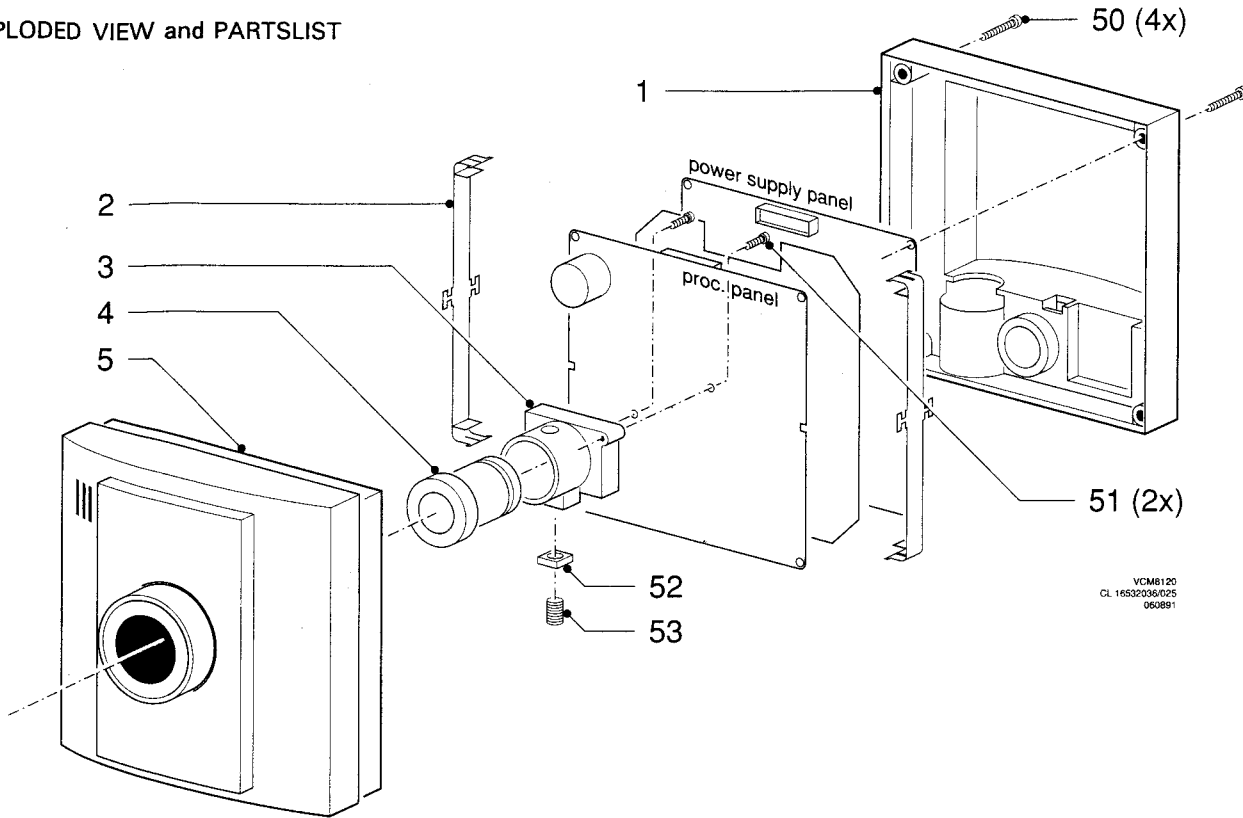
**NOTE:** 7972 and 7992 have to be bent away.





A	1031	124	3114	F14	6984	L23
	1904	C29	3115	F15	6985	K23
	2102	111	3125	G12	6990	M23
	2132	F15	3130	113	7040	B 4
	2135	G11	3131	113	7103	112
	2136	G11	3132	H14	7114	G14
	2140	N 3	3133	115	7114	114
	2141	N 4	3136	G11	7125	F12
	2143	D26	3137	G10	7141	K 7
	2144	M 9	3142	N 4	7145	L 2
B	2146	K 3	3143	D26	7150	G16
	2148	K 4	3144	M 8	7150	H 4
	2150	H 2	3146	L 2	7170	F 4
	2151	H 3	3147	L 3	7187	L15
	2155	J 9	3148	L 3	7196	C 7
	2157	K 3	3149	L 4	7214	F18
	2160	K 3	3161	J 3	7215	G19
	2162	K 2	3170	F 7	7223	H18
	2163	K 3	3185	C 3	7230	B 9
	2167	F 7	3188	L16	7230	B18
C	2171	F 7	3195	H16	7230	A20
	2180	C 3	3195	B 7	7265	G22
	2185	C 3	3196	B 7	7266	G23
	2186	M15	3201	D 7	7270	C24
	2187	M15	3200	D 7	7272	C25
	2188	M16	3201	D 8	7282	C26
	2196	C 8	3202	C 7	7292	I25
	2197	C 7	3203	C 8	7299	H26
	2206	D 8	3205	D 7	7316	K15
	2210	F18	3206	E 7	7909	J29
D	2211	G18	3210	117	7961	J24
	2215	F19	3212	F18	7967	O27
	2216	G20	3212	H18	7968	N17
	2223	119	3214	F19	7970	N25
	2224	119	3215	H18	7971	N25
	2229	N19	3220	H18	7972	N21
	2230	B 9	3221	H18		M21
	2231	N19	3222	118		
	2232	N19	3222	H20		
	2233	B11	3223	A13		
E	2234	C15	3240	A12		
	2235	B13	3241	C15		
	2236	B10	3242	C18		
	2237	B15	3250	E24		
	2238	D14	3251	E24		
	2239	C18	3252	F25		
	2240	B13	3253	F24		
	2241	C14	3254	F25		
	2242	B18	3255	F24		
	2243	C19	3260	A21		
F	2244	B19	3261	A23		
	2251	F24	3262	A25		
	2253	G24	3263	A22		
	2256	D21	3265	G22		
	2257	E20	3266	F23		
	2258	E20	3270	D24		
	2261	B23	3271	D24		
	2262	B24	3272	B25		
	2263	G22	3273	D25		
	2264	G21	3276	C26		
G	2275	D25	3281	C27		
	2276	D26	3282	C27		
	2282	C27	3290	G24		
	2283	C28	3291	H24		
	2290	H24	3292	H25		
	2292	124	3293	H25		
	2295	H25	3296	G26		
	2297	H26	3297	H26		
	2302	H27	3298	I26		
	2303	H28	3299	H26		
H	2310	J19	3300	I26		
	2311	J19	3303	H27		
	2315	L14	3316	K15		
	2316	L15	3317	K16		
	2317	L16	3318	K16		
	2318	K19	3904	C29		
	2319	K19	3905	A30		
	2325	L19	3909	J29		
	2326	L19	3950	M24		
	2330	M19	3951	L24		
I	2331	M19	3960	J25		
	2903	C28	3961	J24		
	2905	B30	3965	O27		
	2906	B29	3966	N27		
	2907	H29	3967	N27		
	2908	J30	3968	L25		
	2909	K29	3970	O25		
	2950	M24	3971	N23		
	2953	J27	3973	N20		
	2954	J26	3974	N20		
J	2955	J25	3975	O20		
	2960	J24	3995	I29		
	2961	K24	5141	M 4		
	2965	O28	5150	H 3		
	2968	K25	5161	K 3		
	2970	O24	5230	A 9		
	2972	N22	5231	N19		
	2980	J22	5241	C15		
	2981	J22	5251	C17		
	2982	J21	5283	B28		
K	2985	L22	5311	J19		
	2986	L22	5319	K19		
	2987	L21	5326	L19		
	2988	L21	5331	L19		
	2990	M23	5953	J26		
	2991	M22	5980	J24		
	2992	M22	5981	J22		
	2993	M21	5986	K22		
	2996	M20	5990	M22		
	3100	H11	6148	L 4		
L	3101	111	6170	F 7		
	3102	111	6225	H20		
	3104	112	6961	J24		
	3105	J12	6965	N27		
	3112	G13	6968	K25		
	3113	G13	6980	J23		

## EXPLODED VIEW and PARTSLIST



VCM8120  
CL 16532036/025  
050891

4822 462 10507 Tripod assy /00/01T  
4822 462 10516 Tripod assy /05R  
4822 502 21314 Screw for tripod  
4822 505 10665 Lock nut M5  
4822 321 61405 Coax conn. cable  
4822 264 10233 Male coax plug  
4822 267 31424 Fem. coax socket  
4822 736 52646 DFU /00T/01T  
4822 736 52817 DFU /05R  
4822 310 32045 Extension board  
4822 395 50426 Trimming tool SMD

1 4822 432 60621 Housing back /00T/01T  
1 4822 432 60678 Housing back /05R  
2 4822 466 93052 Spacer  
3 4822 256 80074 Lens Holder  
4 4822 381 11291 Lens 3.6 mm  
5 4822 432 60619 Housing front /00T/01T  
5 4822 432 60681 Housing front /05R  
50 4822 502 13887 Torx screw 2x20  
51 4822 502 13886 Torx screw 2x5  
52 4822 505 10635 Square nut  
53 4822 502 10176 Screw M3x5

## Various

1020 4822 212 30438 Proc. PCB assy 00/01T  
1020 4822 212 30439 Proc. PCB assy 05R  
1021 4822 214 33474 Power board /00T  
1021 4822 214 33536 Power board /01T  
1021 4822 214 33475 Power board /05R  
1031 4822 242 30176 Microphone  
1035 4822 212 10232 Proc. panel  
1103 4822 404 60717 Test clip chip  
1115 4822 404 60717 Test clip chip  
1123 4822 404 60717 Test clip chip  
1133 4822 404 60717 Test clip chip  
1141 4822 404 60717 Test clip chip

1216 4822 404 60717 Test clip chip  
1232 4822 404 60717 Test clip chip  
1271 4822 404 60717 Test clip chip  
1276 4822 404 60717 Test clip chip  
1281 4822 404 60717 Test clip chip  
1302 4822 404 60717 Test clip chip  
X1 5322 265 40903 Connector 10p  
P2 4822 265 41281 Connector 10p

## Modulator

1904 4822 214 33469 Modulator /00T  
1904 4822 214 33535 Modulator /01T  
1904 4822 214 33468 Modulator /05R

## Capacitors

2102 4822 126 10002 100nF 20% 25V  
2132 4822 126 10002 100nF 20% 25V  
2135 4822 124 23982 10μF 20% 25V  
2136 4822 126 10002 100nF 20% 25V  
2140 4822 126 10002 100nF +80/-20%  
2141 4822 124 23981 47μF 20% 6.3V  
2143 5322 122 32448 10pF 5% 50V  
2144 5322 122 32531 100pF 5% 50V  
2150 4822 126 10002 100nF 20% 25V  
2151 4822 124 23981 47μF 20% 6.3V  
2155 5322 122 34123 1nF 10% 50V  
2158 5322 122 32659 33pF 5% 50V  
2160 5322 122 32448 10pF 5% 50V  
2162 4822 122 33981 22pF 5%  
2163 5322 122 32448 10pF 5% 50V  
2170 4822 124 23981 47μF 20% 6.3V  
2171 4822 126 10002 100nF 20% 25V  
2180 4822 126 10002 100nF 20% 25V  
2185 4822 126 10002 100nF 20% 25V  
2186 4822 126 10002 100nF 20% 25V  
2187 4822 124 23982 10μF 20% 25V  
2188 4822 124 23982 10μF 20% 25V  
2196 4822 126 10002 100nF 20% 25V  
2197 4822 124 23982 10μF 20% 25V  
2206 5322 122 34123 1nF 10% 50V

2210 5322 122 34123 1nF 10% 50V  
2211 5322 122 34123 1nF 10% 50V  
2215 4822 126 10002 100nF 20% 25V  
2216 5322 122 34123 1nF 10% 50V  
2223 4822 124 23982 10μF 20% 25V  
2224 4822 126 10002 100nF 20% 25V  
2229 4822 124 23981 47μF 20% 6.3V  
2230 4822 126 10002 100nF 20% 25V  
2231 4822 126 11216 22μF 20% 6.3V  
2232 4822 126 10002 100nF 20% 25V  
2233 4822 126 10002 100nF 20% 25V  
2234 4822 126 10002 100nF 20% 25V  
2235 4822 126 11219 1μF 20% 16V  
2236 4822 124 23981 47μF 20% 6.3V  
2237 4822 124 23982 10μF 20% 25V  
2238 4822 126 10002 100nF 20% 25V  
2239 4822 126 10002 100nF 20% 25V  
2240 4822 126 11219 1μF 20% 16V  
2241 4822 124 23981 47μF 20% 6.3V  
2242 4822 124 23981 47μF 20% 6.3V  
2243 4822 126 11216 22μF 20% 6.3V  
2244 4822 122 33496 100nF 10% 63V  
2251 4822 126 10002 100nF 20% 25V  
2253 4822 126 10002 100nF 20% 25V  
2256 4822 126 11219 1μF 20% 16V  
2257 4822 124 23981 47μF 20% 6.3V  
2258 4822 126 10002 100nF 20% 25V  
2261 4822 126 10002 100nF 20% 25V  
2262 4822 124 23982 10μF 20% 25V  
2263 4822 124 23981 47μF 20% 6.3V  
2264 4822 126 10002 100nF 20% 25V  
2275 4822 124 23981 47μF 20% 6.3V  
2276 4822 126 10002 100nF 20% 25V  
2282 4822 126 10002 100nF 20% 25V  
2283 4822 124 23981 47μF 20% 6.3V  
2290 4822 124 23981 47μF 20% 6.3V  
2292 4822 126 10002 100nF 20% 25V  
2295 4822 126 10002 100nF 20% 25V

2297 4822 124 23981 47 $\mu$ F 20% 6.3V  
 2302 4822 126 10002 100nF 20% 25V  
 2303 5322 122 34123 1nF 10% 50V  
 2310 4822 126 10002 100nF 20% 25V  
 2311 4822 124 23982 10 $\mu$ F 20% 25V  
 2315 4822 124 23982 10 $\mu$ F 20% 25V  
 2316 4822 126 10002 100nF 20% 25V  
 2317 4822 124 23982 10 $\mu$ F 20% 25V  
 2318 4822 126 10002 100nF 20% 25V  
 2319 4822 124 23982 10 $\mu$ F 20% 25V  
 2325 4822 126 10002 100nF 20% 25V  
 2326 4822 124 23981 47 $\mu$ F 20% 6.3V  
 2330 4822 126 10002 100nF 20% 25V  
 2331 4822 124 23982 10 $\mu$ F 20% 25V  
 2903 5322 122 33538 150pF 5% NPO  
 2905 4822 126 10002 100nF +80/-20%  
 2906 4822 124 23981 47 $\mu$ F 20% 6.3V  
 2907 4822 122 33127 2n2 10% x7R  
 2908 4822 126 10002 100nF +80/-20%  
 2909 4822 124 23982 10 $\mu$ F 20% 25V  
 2950 5322 122 34098 10nF 10% X7R  
 2953 4822 126 10002 100nF +80/-20%  
 2954 4822 124 40433 470 $\mu$ F 25V  
 2955 4822 126 10002 100nF +80/-20%  
 2960 4822 126 10002 100nF +80/-20%  
 2961 4822 122 32507 6.8pF 5% 50V  
 2965 4822 124 23981 47 $\mu$ F 20% 6.3V  
 2968 4822 122 32891 68nF 10%  
 2970 4822 122 33128 15nF 10% X7R  
 2972 5322 122 34098 10nF 10% X7R  
 2980 4822 124 23979 1.5 $\mu$ F 20% 25V  
 2981 4822 124 23982 10 $\mu$ F 20% 25V  
 2982 4822 126 10002 100nF +80/-20%  
 2985 4822 124 23795 33 $\mu$ F 10% 6.3V  
 2986 4822 124 23795 33 $\mu$ F 10% 6.3V  
 2987 4822 124 23981 47 $\mu$ F 20% 6.3V  
 2988 4822 126 10002 100nF +80/-20%  
 2990 4822 124 23982 10 $\mu$ F 25V  
 2991 4822 124 23982 10 $\mu$ F 25V  
 2992 4822 126 10002 100nF +80/-20%  
 2993 4822 126 10002 100nF +80/-20%  
 2996 4822 122 33496 100nF 63V

**Resistor**

3100 4822 051 20223 22k 5% 0,1W  
 3101 4822 100 11663 10k  
 3102 4822 051 20183 18k 5% 0,1W  
 3104 4822 051 20689 68 $\Omega$  5% 0,1W  
 3105 4822 051 20102 1k 5% 0,1W  
 3112 4822 051 20103 10k 5% 0,1W  
 3113 4822 051 20103 10k 5% 0,1W  
 3114 4822 051 20105 1M 5% 0,1W  
 3115 4822 051 20223 22k 5% 0,1W  
 3124 4822 111 91536  
 3125 4822 051 20102 1k 5% 0,1W  
 3130 4822 051 20103 10k 5% 0,1W  
 3131 4822 051 20103 10k 5% 0,1W  
 3132 4822 051 20105 1M 5% 0,1W  
 3133 4822 051 20223 22k 5% 0,1W  
 3136 4822 051 20472 4k7 5% 0,1W  
 3137 4822 051 20472 4k7 5% 0,1W  
 3143 4822 051 20102 1k 5% 0,1W  
 3144 4822 051 20102 1k 5% 0,1W  
 3155 4822 111 91536  
 3161 4822 051 20331 330 $\Omega$  5% 0,1W  
 3170 4822 051 20471 470 $\Omega$  5% 0,1W  
 3185 4822 051 20332 3k3 5% 0,1W  
 3188 4822 116 83479 6k 65 1%  
 3189 4822 116 83481 16k 5  
 3195 4822 051 20339 33 $\Omega$  5% 0,1W

3196 4822 051 20339 33 $\Omega$  5% 0,1W  
 3197 4822 051 20472 4k7 5% 0,1W  
 3200 4822 051 20339 33 $\Omega$  5% 0,1W  
 3201 4822 051 20472 4k7 5% 0,1W  
 3202 4822 051 20223 22k 5% 0,1W  
 3203 4822 051 20103 10k 5% 0,1W  
 3205 4822 051 20339 33 $\Omega$  5% 0,1W  
 3206 4822 051 20339 33 $\Omega$  5% 0,1W  
 3210 4822 051 20331 330 $\Omega$  5% 0,1W  
 3212 4822 051 20102 1k 5% 0,1W  
 3213 4822 051 20102 1k 5% 0,1W  
 3214 4822 051 20339 33 $\Omega$  5% 0,1W  
 3215 4822 051 20339 33 $\Omega$  5% 0,1W  
 3220 4822 051 20182 1k8 5% 0,1W  
 3221 4822 100 11663 10k potm.  
 3222 4822 051 20472 4k7 5% 0,1W  
 3225 4822 051 20104 100k 5% 0,1W  
 3235 4822 051 20224 220k 5% 0,1W  
 3240 4822 051 20564 560k 5% 0,1W  
 3241 4822 051 20821 820 $\Omega$  5% 0,1W  
 3242 4822 051 20122 1k2 5% 0,1W  
 3250 4822 051 20332 3k3 5% 0,1W  
 3251 4822 100 11663 10k potm.  
 3252 4822 051 20102 1k 5% 0,1W  
 3253 4822 100 11663 10k potm.  
 3254 4822 051 20182 1k8 5% 0,1W  
 3255 4822 051 20103 10k 5% 0,1W  
 3260 4822 051 20472 4k7 5% 0,1W  
 3261 4822 100 11663 10k potm.  
 3262 4822 051 20104 100k 5% 0,1W  
 3263 4822 051 20332 3k3 5% 0,1W  
 3265 4822 051 20102 1k 5% 0,1W  
 3266 4822 051 20333 33k 5% 0,1W  
 3270 4822 051 20471 470 $\Omega$  5% 0,1W  
 3271 4822 116 83482 115 $\Omega$  1%  
 3272 4822 116 83483 681 $\Omega$  1%  
 3273 4822 051 20471 470 $\Omega$  5% 0,1W  
 3276 4822 051 20332 3k3 5% 0,1W  
 3281 4822 051 20102 1k 5% 0,1W  
 3282 4822 051 20221 220 $\Omega$  5% 0,1W  
 3290 4822 051 20331 330 $\Omega$  5% 0,1W  
 3291 4822 051 20182 1k8 5% 0,1W  
 3292 4822 051 20105 1M 5% 0,1W  
 3293 4822 051 20472 4k7 5% 0,1W  
 3296 4822 051 20331 330 $\Omega$  5% 0,1W  
 3297 4822 051 20683 68k 5% 0,1W  
 3298 4822 051 20333 33k 5% 0,1W  
 3299 4822 051 20122 1k2 5% 0,1W  
 3300 4822 051 20331 330 $\Omega$  5% 0,1W  
 3303 4822 051 20472 4k7 5% 0,1W  
 3316 4822 051 20333 33k 5% 0,1W  
 3317 4822 051 20822 8k2 5% 0,1W  
 3318 4822 051 20333 33k 5% 0,1W  
 3904 4822 051 10102 1k 2% 0,25W  
 3905 4822 051 20109 10 $\Omega$  5%  
 3909 4822 051 20272 2k7 5%  
 3950 4822 051 20152 1k5 5%  
 3951 4822 051 20181 180 5%  
 3960 4822 051 20153 15k 5%  
 3961 4822 051 20103 10k 5%  
 3965 4822 051 20103 10k 5%  
 3966 4822 051 20103 10k 5%  
 3967 4822 051 20103 10k 5%  
 3968 4822 051 20181 180 $\Omega$  5%  
 3970 4822 051 20471 470 $\Omega$  5%  
 3971 4822 051 20681 680 $\Omega$  5%  
 3973 4822 051 54642 4k64 1%  
 3974 4822 051 20221 220 $\Omega$  5%  
 3975 4822 051 54642 4k64 1%  
 3995 4822 051 20008 OR

**Coils**

5141 5322 157 63043 47 $\mu$ H 10%  
 5150 5322 157 63043 47 $\mu$ H 10%  
 5161 4822 156 21648 2.2 $\mu$ H 19.3mH z  
 5230 4822 526 10548 Bead  
 5231 4822 526 10548 Bead  
 5241 4822 157 63636 4FT 9.6MHz  
 5251 4822 157 63635 Coil  
 5283 5322 157 63043 47 $\mu$ H 10%  
 5311 5322 157 63043 47 $\mu$ H 10%  
 5319 5322 157 63043 47 $\mu$ H 10%  
 5326 4822 526 10548 Bead  
 5331 5322 157 63043 47 $\mu$ H 10%  
 5953 4822 157 63347 470 $\mu$ H  
 5980 4822 148 81212 Transformer  
 5981 5322 157 63043 47 $\mu$ H 10%  
 5986 4822 157 51904 100 $\mu$ H  
 5990 5322 157 63043 47 $\mu$ H 10%

**Diode**

6170 5322 130 31928 BAS16  
 6225 5322 130 31928 BAS16  
 6961 5322 130 31928 BAS16  
 6965 4822 130 80125 BZX84-C5V6  
 6968 5322 130 31928 BAS16  
 6980 5322 130 31928 BAS16  
 6984 5322 130 32962 BZV85-C6V2  
 6985 4822 130 81125 MA701A  
 6990 5322 130 31928 BAS16

**Transistor & I.C.'s**

7040 4822 209 31329 LZ2314Z /05R  
 7040 4822 209 31331 LZ2324Z /00T/01T  
 7103 5322 130 41982 BC848B  
 7114 4822 209 31205 LM293D  
 7125 5322 130 41982 BC848B  
 7141 4822 209 30637 LZ93B53  
 7150 4822 209 30636 LZ93F31  
 7170 4822 209 30635 LR36683N  
 7187 5322 130 41982 BC848B  
 7196 4822 130 42353 BFS19  
 7214 5322 130 60503 BSR15  
 7215 4822 130 62908 BSR13  
 7223 5322 130 41982 BC848B  
 7230 4822 209 30638 IR3P69  
 7265 5322 130 41982 BC848B  
 7266 5322 130 41983 BC858B  
 7270 5322 130 41982 BC848B  
 7272 5322 130 41982 BC848B  
 7282 5322 130 41982 BC848B  
 7292 5322 130 41982 BC848B  
 7299 5322 130 41982 BC848B  
 7316 5322 130 41982 BC848B  
 7909 4822 130 42615 BC817-40  
 7961 5322 130 61817 BCX56-16  
 7967 5322 130 41982 BC848B  
 7968 5322 130 41982 BC848B  
 7970 4822 130 42615 BC817-40  
 7971 4822 130 82847 PC817I  
 7972 5322 209 62029 TL431ILP  
 7992 4822 209 30639 MC78L08ABP